

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Arsenious Acid Solution for Iodide  
Product code : LC11520

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.  
Restrictions on use : Not for food, drug or household use

#### 1.3. Details of the supplier of the safety data sheet

LabChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
Zelienople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Carcinogenicity Category 1A H350  
Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Danger  
Hazard statements (GHS-US) : H350 - May cause cancer  
Precautionary statements (GHS-US) : P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P280 - Wear protective gloves, eye protection  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P501 - Dispose of contents/container to comply with local, state and federal regulations

#### 2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

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| Name             | Product identifier | %     | GHS-US classification                                                                                           |
|------------------|--------------------|-------|-----------------------------------------------------------------------------------------------------------------|
| Water            | (CAS No) 7732-18-5 | 99.46 | Not classified                                                                                                  |
| Arsenic Trioxide | (CAS No) 1327-53-3 | 0.5   | Acute Tox. 2 (Oral), H300<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Carc. 1A, H350<br>Aquatic Acute 2, H401 |
| Sulfuric Acid    | (CAS No) 7664-93-9 | 0.04  | Skin Corr. 1A, H314<br>Eye Dam. 1, H318                                                                         |

Full text of hazard classes and H-statements : see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : May cause cancer.
- Symptoms/injuries after inhalation : May cause cancer by inhalation.
- Symptoms/injuries after ingestion : Vomiting. Nausea. Diarrhoea. Impairment of the nervous system.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Hospitalize at once.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Gloves.
- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use.  
Incompatible products : Strong bases. Strong oxidizers.  
Incompatible materials : Sources of ignition. Direct sunlight.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| Arsenic Trioxide (1327-53-3) |                                          |                                                                                                                              |
|------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| ACGIH                        | ACGIH TWA (mg/m <sup>3</sup> )           | 0.01 mg/m <sup>3</sup> as As                                                                                                 |
| OSHA                         | OSHA PEL (TWA) (mg/m <sup>3</sup> )      | 0.01 mg/m <sup>3</sup> as As, inorganic compounds                                                                            |
| NIOSH                        | NIOSH REL (ceiling) (mg/m <sup>3</sup> ) | 0.002 mg/m <sup>3</sup> 15 min.                                                                                              |
| NIOSH                        | Remark (NIOSH)                           | See Pocket Guide, App. A.                                                                                                    |
| Sulfuric Acid (7664-93-9)    |                                          |                                                                                                                              |
| ACGIH                        | ACGIH TWA (mg/m <sup>3</sup> )           | 0.2 mg/m <sup>3</sup> (Sulfuric acid; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Thoracic fraction) |
| OSHA                         | OSHA PEL (TWA) (mg/m <sup>3</sup> )      | 1 mg/m <sup>3</sup>                                                                                                          |
| IDLH                         | US IDLH (mg/m <sup>3</sup> )             | 15 mg/m <sup>3</sup>                                                                                                         |
| NIOSH                        | NIOSH REL (TWA) (mg/m <sup>3</sup> )     | 1 mg/m <sup>3</sup>                                                                                                          |
| Water (7732-18-5)            |                                          |                                                                                                                              |
| Not applicable               |                                          |                                                                                                                              |

#### 8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled in a laboratory hood whenever possible.

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Safety glasses.



Hand protection : Wear protective gloves.  
Eye protection : Chemical goggles or safety glasses.  
Respiratory protection : Wear appropriate mask.  
Other information : Do not eat, drink or smoke during use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Color : Colorless  
Odor : None.  
Odor threshold : No data available  
pH : No data available  
Melting point : No data available  
Freezing point : No data available

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|                                             |                     |
|---------------------------------------------|---------------------|
| Boiling point                               | : No data available |
| Flash point                                 | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas)                   | : Non flammable.    |
| Vapor pressure                              | : No data available |
| Relative vapor density at 20 °C             | : No data available |
| Relative density                            | : No data available |
| Specific gravity / density                  | : 1 g/ml            |
| Solubility                                  | : Soluble in water. |
| Log Pow                                     | : No data available |
| Auto-ignition temperature                   | : No data available |
| Decomposition temperature                   | : No data available |
| Viscosity, kinematic                        | : No data available |
| Viscosity, dynamic                          | : No data available |
| Explosion limits                            | : No data available |
| Explosive properties                        | : No data available |
| Oxidizing properties                        | : No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong oxidizers. Strong bases.

### 10.6. Hazardous decomposition products

Arsenic and its oxides. Sulfur compounds.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

| Arsenious Acid Solution for Iodide |                                                  |
|------------------------------------|--------------------------------------------------|
| LD50 oral rat                      | 2941 mg/kg                                       |
| ATE US (oral)                      | 2941.000 mg/kg body weight                       |
| Arsenic Trioxide (1327-53-3)       |                                                  |
| LD50 oral rat                      | 14.6 mg/kg                                       |
| ATE US (oral)                      | 14.600 mg/kg body weight                         |
| Sulfuric Acid (7664-93-9)          |                                                  |
| LD50 oral rat                      | 2140 mg/kg body weight (Rat; Experimental value) |
| Water (7732-18-5)                  |                                                  |
| LD50 oral rat                      | ≥ 90000 mg/kg                                    |
| ATE US (oral)                      | 90000.000 mg/kg body weight                      |

Skin corrosion/irritation : Not classified

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|                                   |                     |
|-----------------------------------|---------------------|
| Serious eye damage/irritation     | : Not classified    |
| Respiratory or skin sensitization | : Not classified    |
| Germ cell mutagenicity            | : Not classified    |
| Carcinogenicity                   | : May cause cancer. |

| Arsenic Trioxide (1327-53-3)             |                             |
|------------------------------------------|-----------------------------|
| IARC group                               | 1 - Carcinogenic to humans  |
| National Toxicology Program (NTP) Status | 2 - Known Human Carcinogens |

| Sulfuric Acid (7664-93-9)                |                                                                                 |
|------------------------------------------|---------------------------------------------------------------------------------|
| Additional information                   | Strong inorganic acid mists containing sulfuric acid are carcinogenic to humans |
| IARC group                               | 1 - Carcinogenic to humans                                                      |
| National Toxicology Program (NTP) Status | 2 - Known Human Carcinogens                                                     |

|                                                  |                  |
|--------------------------------------------------|------------------|
| Reproductive toxicity                            | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |

|                                                    |                  |
|----------------------------------------------------|------------------|
| Specific target organ toxicity (repeated exposure) | : Not classified |
|----------------------------------------------------|------------------|

|                   |                  |
|-------------------|------------------|
| Aspiration hazard | : Not classified |
|-------------------|------------------|

|                                                     |                                                                     |
|-----------------------------------------------------|---------------------------------------------------------------------|
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
|-----------------------------------------------------|---------------------------------------------------------------------|

|                                    |                                   |
|------------------------------------|-----------------------------------|
| Symptoms/injuries after inhalation | : May cause cancer by inhalation. |
|------------------------------------|-----------------------------------|

|                                   |                                                                  |
|-----------------------------------|------------------------------------------------------------------|
| Symptoms/injuries after ingestion | : Vomiting. Nausea. Diarrhoea. Impairment of the nervous system. |
|-----------------------------------|------------------------------------------------------------------|

## SECTION 12: Ecological information

### 12.1. Toxicity

| Arsenic Trioxide (1327-53-3) |                      |
|------------------------------|----------------------|
| LC50 fish 1                  | > 1 mg/l             |
| EC50 Daphnia 1               | 8.23 mg/l 24 hr.     |
| Sulfuric Acid (7664-93-9)    |                      |
| LC50 fish 1                  | 42 mg/l (LC50; 96 h) |
| EC50 Daphnia 1               | 29 mg/l (EC50; 24 h) |

### 12.2. Persistence and degradability

| Arsenious Acid Solution for Iodide |                                   |
|------------------------------------|-----------------------------------|
| Persistence and degradability      | Not established.                  |
| Arsenic Trioxide (1327-53-3)       |                                   |
| Persistence and degradability      | Not established.                  |
| Sulfuric Acid (7664-93-9)          |                                   |
| Persistence and degradability      | Biodegradability: not applicable. |
| Biochemical oxygen demand (BOD)    | Not applicable                    |
| Chemical oxygen demand (COD)       | Not applicable                    |
| ThOD                               | Not applicable                    |
| Water (7732-18-5)                  |                                   |
| Persistence and degradability      | Not established.                  |

### 12.3. Bioaccumulative potential

| Arsenious Acid Solution for Iodide  |                  |
|-------------------------------------|------------------|
| Bioaccumulative potential           | Not established. |
| Arsenic Trioxide (1327-53-3)        |                  |
| Bioconcentration factor (BCF REACH) | 236              |
| Bioaccumulative potential           | Not established. |

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| <b>Sulfuric Acid (7664-93-9)</b> |                                  |
|----------------------------------|----------------------------------|
| Log Pow                          | -2.2 (Estimated value)           |
| Bioaccumulative potential        | Bioaccumulation: not applicable. |
| <b>Water (7732-18-5)</b>         |                                  |
| Bioaccumulative potential        | Not established.                 |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

|                              |                                       |
|------------------------------|---------------------------------------|
| Effect on the global warming | : No known effects from this product. |
| GWPmix comment               | : No known effects from this product. |
| Other information            | : Avoid release to the environment.   |

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                |                                                                           |
|--------------------------------|---------------------------------------------------------------------------|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials      | : Avoid release to the environment.                                       |

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT  
Not regulated

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| <b>Arsenious Acid Solution for Iodide</b> |                                 |
|-------------------------------------------|---------------------------------|
| SARA Section 311/312 Hazard Classes       | Delayed (chronic) health hazard |

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

| <b>Arsenic Trioxide (1327-53-3)</b>                                 |                                                                                                                                     |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Subject to reporting requirements of United States SARA Section 313 |                                                                                                                                     |
| RQ (Reportable quantity, section 304 of EPA's List of Lists)        | 1 lb                                                                                                                                |
| SARA Section 302 Threshold Planning Quantity (TPQ)                  | 10000 lb 100 lb if the substance is solid in powder form with particle size less than 100 microns, or is in solution or molten form |
| SARA Section 311/312 Hazard Classes                                 | Immediate (acute) health hazard                                                                                                     |

| <b>Sulfuric Acid (7664-93-9)</b>                                                                                                                   |                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Not subject to reporting requirements of the United States SARA Section 313<br>Subject to reporting requirements of United States SARA Section 313 |                                 |
| RQ (Reportable quantity, section 304 of EPA's List of Lists)                                                                                       | 1000 lb                         |
| SARA Section 302 Threshold Planning Quantity (TPQ)                                                                                                 | 1000 lb                         |
| SARA Section 311/312 Hazard Classes                                                                                                                | Immediate (acute) health hazard |

### 15.2. International regulations

#### CANADA

| <b>Arsenious Acid Solution for Iodide</b> |                                                                                    |
|-------------------------------------------|------------------------------------------------------------------------------------|
| WHMIS Classification                      | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |

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| Arsenic Trioxide (1327-53-3)                          |                                                                                                                                                                                                                     |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Listed on the Canadian DSL (Domestic Substances List) |                                                                                                                                                                                                                     |
| WHMIS Classification                                  | Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects<br>Class E - Corrosive Material<br>Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Sulfuric Acid (7664-93-9)                             |                                                                                                                                                                                                                     |
| WHMIS Classification                                  | Class E - Corrosive Material                                                                                                                                                                                        |
| Water (7732-18-5)                                     |                                                                                                                                                                                                                     |
| WHMIS Classification                                  | Uncontrolled product according to WHMIS classification criteria                                                                                                                                                     |

### EU-Regulations

No additional information available

### National regulations

| Arsenic Trioxide (1327-53-3)                                                                                              |  |
|---------------------------------------------------------------------------------------------------------------------------|--|
| Listed on the Canadian IDL (Ingredient Disclosure List)                                                                   |  |
| Sulfuric Acid (7664-93-9)                                                                                                 |  |
| Listed on IARC (International Agency for Research on Cancer)<br>Listed as carcinogen on NTP (National Toxicology Program) |  |

### 15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

| Arsenic Trioxide (1327-53-3)                          |                                                             |                                                                     |                                                                   |                                   |
|-------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| Yes                                                   | Yes                                                         | No                                                                  | No                                                                | 0.06 µg/day                       |

## SECTION 16: Other information

Revision date : 12/06/2016

Other information : None.

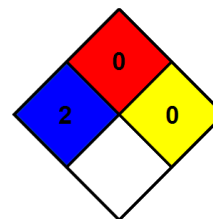
Full text of H-phrases: see section 16:

|      |                                         |
|------|-----------------------------------------|
| H300 | Fatal if swallowed                      |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage               |
| H350 | May cause cancer                        |
| H401 | Toxic to aquatic life                   |

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : B

B - Safety glasses, Gloves

SDS US LabChem

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